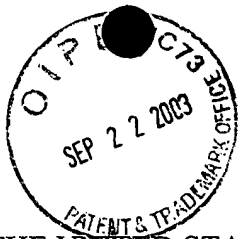


03500.012127



#29
Pat 10/15/03
PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
HIROTO OKAWARA) Examiner: L. Nguyen
Application No.: 08/877,728) Group Art Unit: 2612
Filed: June 18, 1997)
For: IMAGE PICKUP APPARATUS) September 22, 2003
(Monday After Federal Closing)

MAIL STOP NON-FEE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RECEIVED
SEP 24 2003
Technology Center 2600

SUBMISSION OF CORRECTED FORMAL DRAWINGS

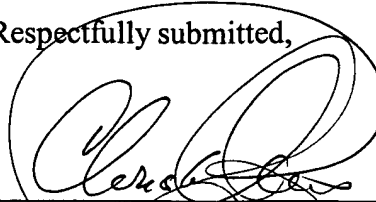
Approved
12/22/03
LN
Sir:

Applicant, having received an Official Action mailed June 18, 2003, in the above-identified patent Application No. 08/877,728, hereby submits five (5) sheets of formal drawings (Sheets 1 to 3, 12 and 13 of 32) that incorporate all necessary changes requested by the Examiner. Applicant requests that the accompanying sheet be substituted for the corresponding sheet in the official file.

Applicant believes that no fees should be incurred in connection with filing this paper. However, the Commissioner is authorized to charge any fees associated herewith to Deposit Account No. 06-1205.

Applicant's undersigned attorney may be reached in our Washington, D.C.
office by telephone at (202) 530-1010. All correspondence should continue to be directed to our
below listed address.

Respectfully submitted,



Attorney for Applicant

Registration No. 32,078

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200
CPW\gmc

DC_MAIN 144789v1

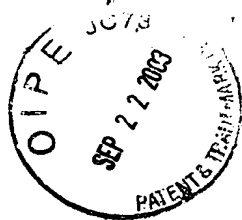
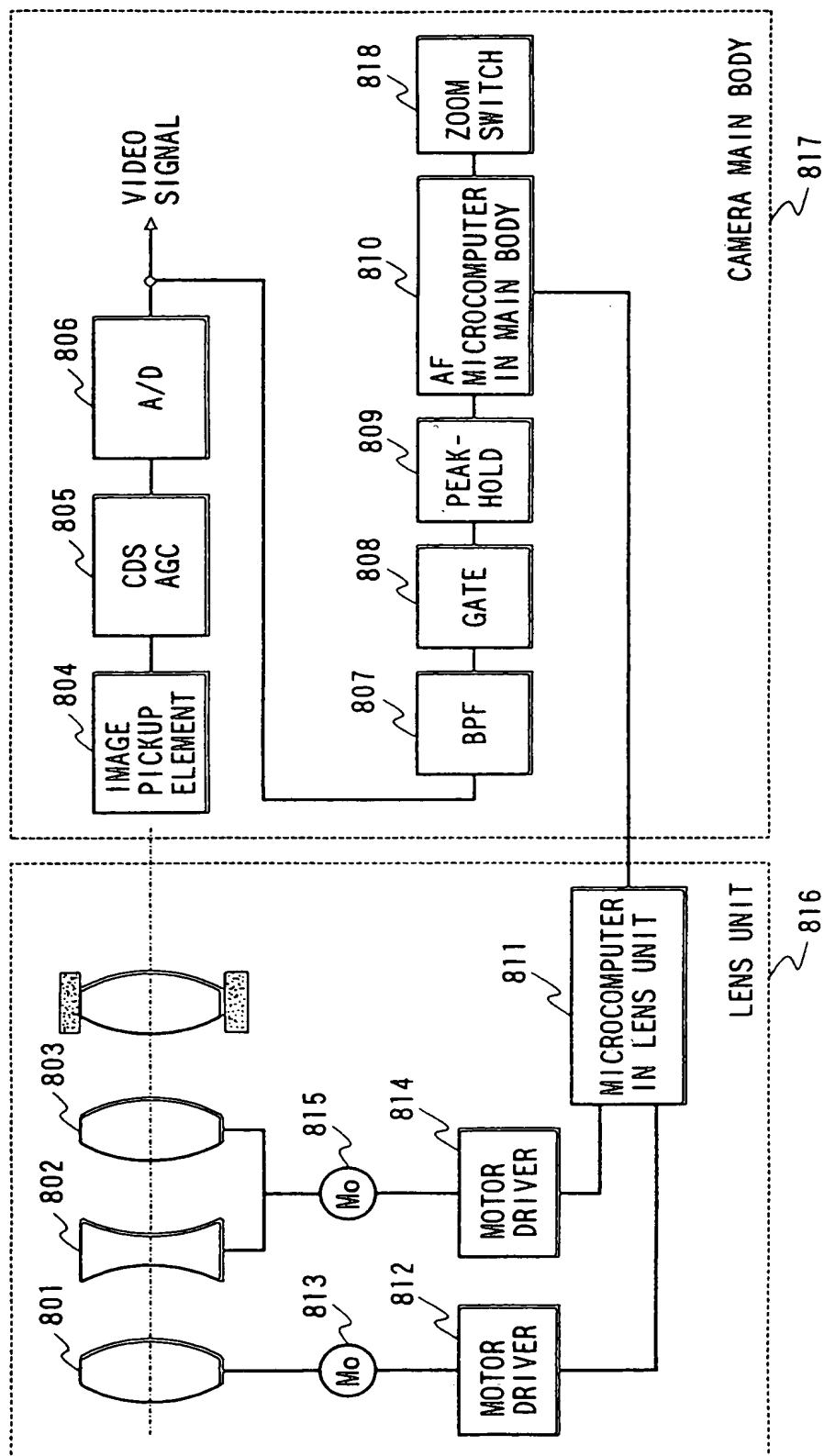


FIG. 1
PRIOR ART



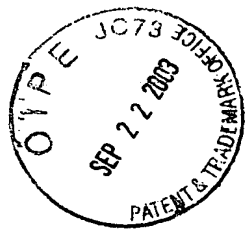


FIG. 2

PRIOR ART

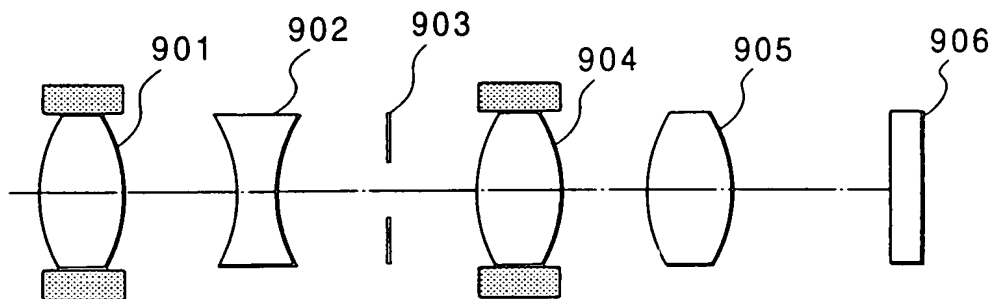


FIG. 3

PRIOR ART

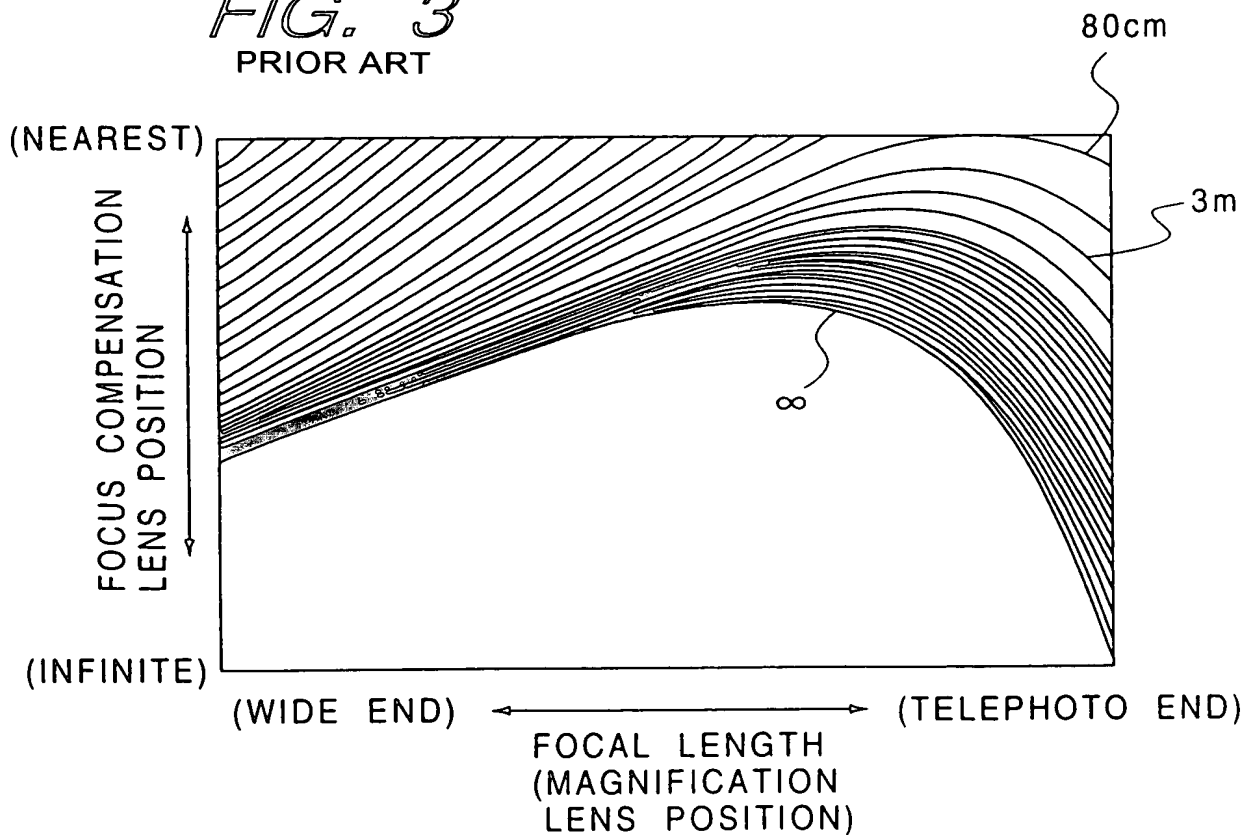




FIG. 4
PRIOR ART

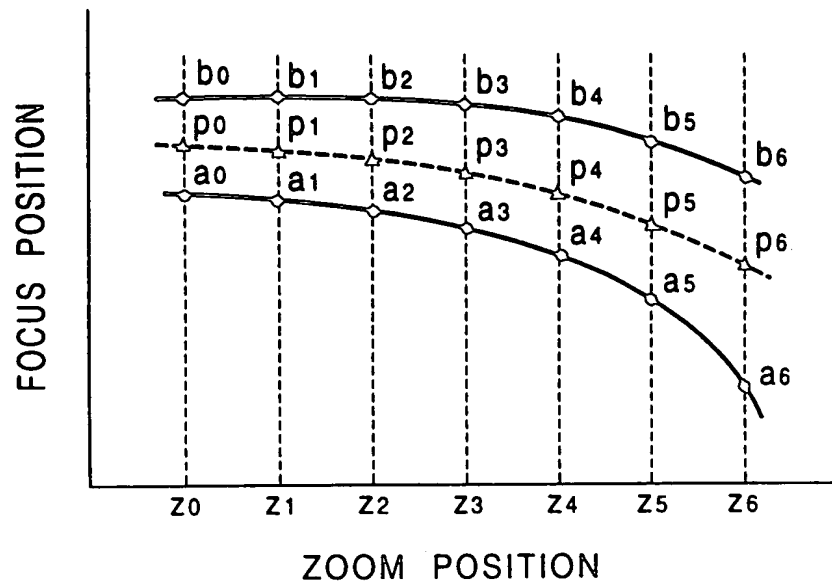
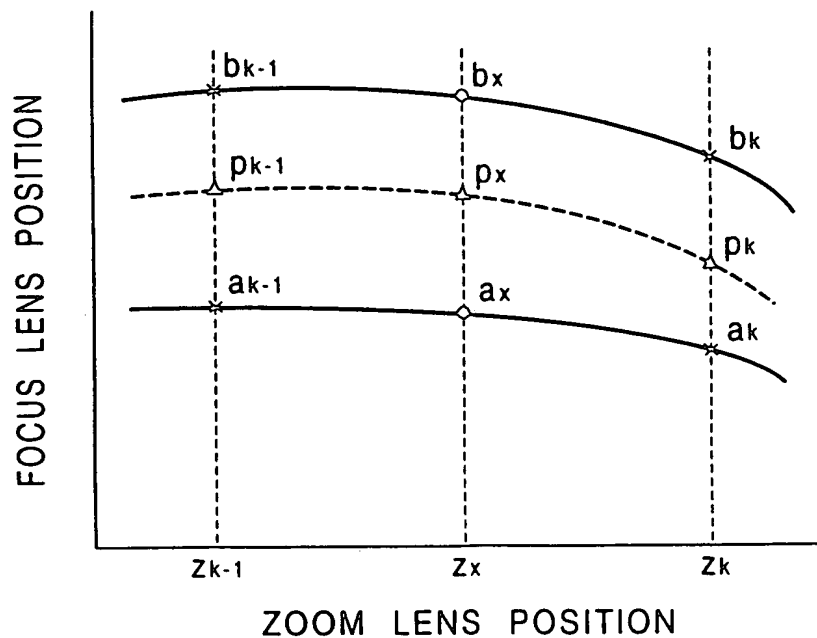


FIG. 5
PRIOR ART



$$a_x = a_k - \frac{(z_k - z_{k-1})(a_k - a_{k-1})}{(z_k - z_{k-1})}$$

$$b_x = b_k - \frac{(z_k - z_x)(b_k - b_{k-1})}{(z_k - z_{k-1})}$$



FIG. 12
PRIOR ART

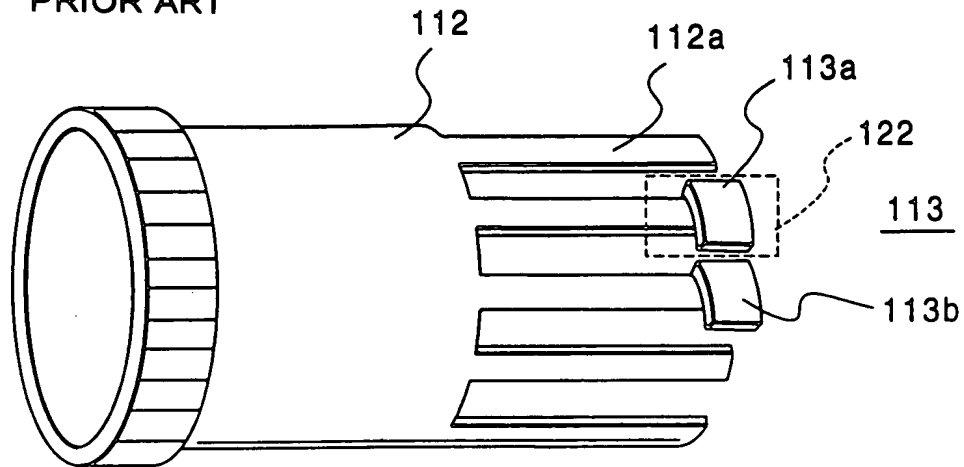
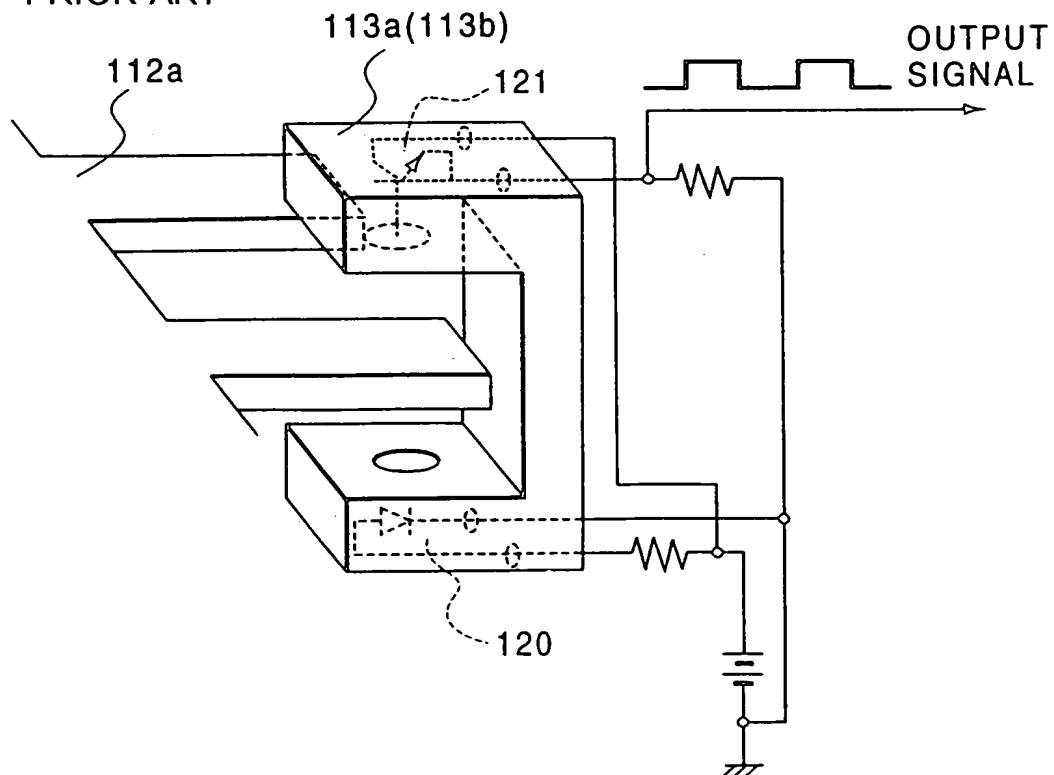
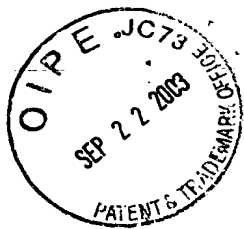


FIG. 13
PRIOR ART



REPLACEMENT SHEET



TIME REQUIRED TO MOVE 112a
BY ONE GEAR TOOTH (HALF PERIOD)

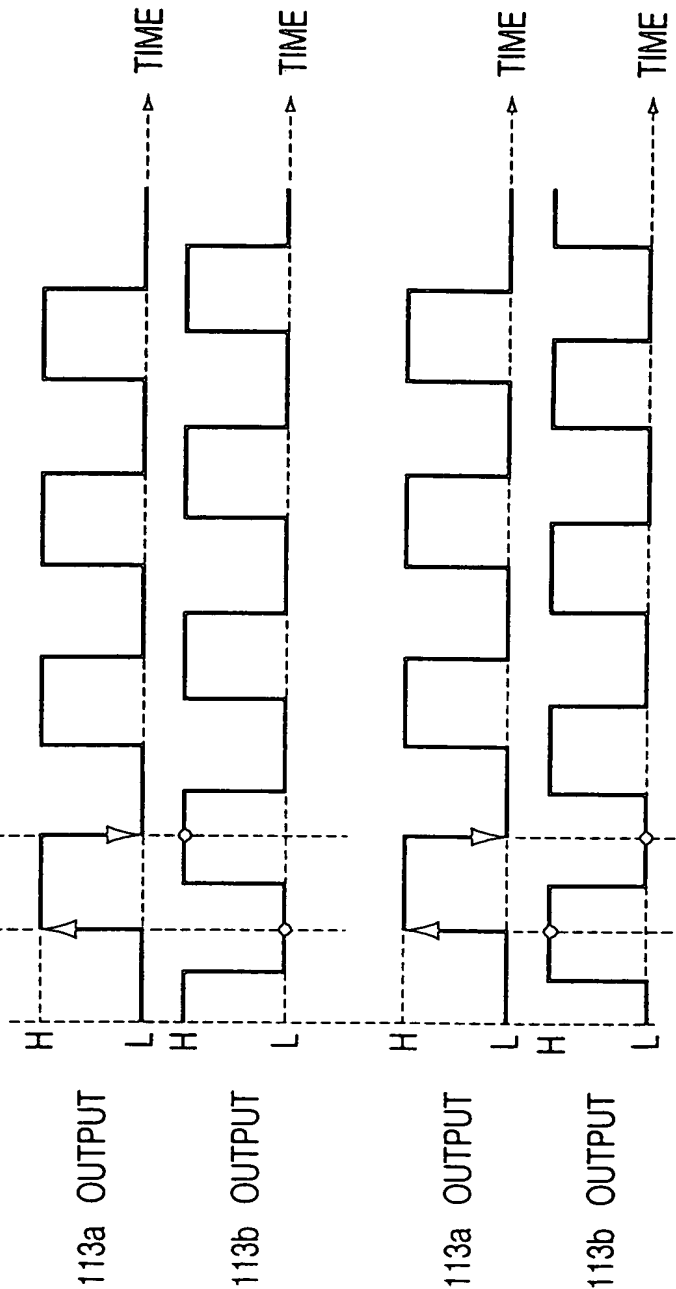


FIG. 14A
PRIOR ART

FIG. 14B
PRIOR ART